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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/748,345	12/29/2003	Mark L. Doczy	42P17820	8139
59796	7590	11/29/2007		
INTEL CORPORATION c/o INTELLEVATE, LLC P.O. BOX 52050 MINNEAPOLIS, MN 55402			EXAMINER THAI, LUAN C	
			ART UNIT 2891	PAPER NUMBER
			MAIL DATE 11/29/2007	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

Application No.

10/748,345

Applicant(s)

DOCZY ET AL.

Examiner

Luan Thai

Art Unit

2891

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 31 October 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1,2,4-8,11-13,15,16 and 25 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-2, 4-8, 11-13, 15-16 and 25 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Request for Continued Examination***

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 10/31/07 has been entered.

Claims **1-2, 4-8, 11-13, 15-16 and 25** are pending in this application.

Claims **3, 9-10, 14 and 17-24** have been cancelled.

### ***Claim Objections***

1. Claim 6 is objected to under 37 CFR 1.75 as being a substantial duplicate of claim 1. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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3. Claims 1-2, 4-8, 11-13, 15-16 and 25, are rejected under 35 U.S.C. 103(a) as being unpatentable over Chambers (7,005,365 of record) in view of Goto (6,599,819 of record).

Regarding claims 1-2, 4-8, 11-13, 15-16 and 25, Chambers disclose (see specifically figures 1-3, Col. 2, line 62 to Col. 8, line 45) a method of forming a microelectronic structure comprising: providing a substrate (110/210) comprising source/drain regions (155/160, 255/260) and gate region there between, wherein the gate region comprises a metal gate electrode (125/135, 225/235) of ruthenium, palladium, or platinum (Col. 6, lines 28+ and Col 8, lines 22+) disposed as a single layer and directly disposed on a high k gate dielectric layer (105/205) of hafnium dioxide (Col. 4, lines 58+), a spacer (165/265) being in direct contact with the metal gate electrode (125/135, 225/235); laser annealing the substrate to activate the implanted species; a doped polysilicon fill layer (295) may disposed on the metal gate electrode (225/235). Since the doped polysilicon fill layer, which is disposed on the metal gate electrode, is commonly applied in the art as a protective layer for the metal gate electrode (as evidenced by Fuse et al., U.S. Patent No. 4,629,286, Col. 4, lines 25+, of record), the metal gate electrode is obviously considered "*not substantially diffuse into the polysilicon fill layer*". Chambers further discloses NMOS gate electrode and a PMOS gate electrode (Col. 1, lines 22+ and Col 6, lines 10+), and the metal gate layer can be selected to have the work function in the range from about 4 electron volts to about 4.2 electron volts and from about 5 electron volts to about 5.2 electron volts (Col. 6, lines 13+). Chambers, thus, discloses the claimed invention as detailed above except for specifying the laser beam pulsed at *about 20 nanoseconds or less*.

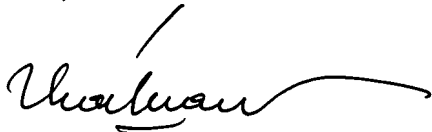
Although Chambers does not specify the claimed time range of the laser beam pulsed (e.g., 20 nanoseconds or less), the annealing time using laser beam is commonly less than 20 ns

for activating the implanted regions in a substrate, as disclosed by Goto (Col. 3, lines 49+). It would have been obvious to one of ordinary skill in the art at the time the invention was made to pulse the laser beam to the substrate at about 20 ns or less for activating the implanted regions in the substrate since such the pulsed time of a laser beam is commonly applied in the art, as taught by Goto, and such time range is an art recognized variable of importance which is subject to routine of experimentation and optimization.

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Luan Thai whose telephone number is 571-272-1935. The examiner can normally be reached on 8:00 AM - 4:30 PM, Monday to Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bradley W. Baumeister can be reached on 571-272-1722. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



**Luan Thai**  
Primary Examiner  
Art Unit 2891  
November 23, 2007